

# MODIS Land 250m Production System

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## Background

- MODIS held to 0.5x production of '96 Baseline for Year 1 (L2/L3)
- The Land group plan was initially to produce 50% spatial coverage for land products – unwilling to subsample products spatially or temporally to facilitate validation and early product distribution effort
- IWG concerns about non-global spatial coverage at launch
- Martha Maiden and Diane Wickland tasked with resolving mismatch between MODLAND plan and IWG requirement for global coverage
- Solution: produce full spatial coverage of 500m and 1km land products (approximately 50% production) and only an affordable amount (10%) of 250m products for the first year of production
- Support provided for separate 250m production system in the context of Earth Science Information Partners (ESIP) Federation to reconcile MODAPS production requirements / Land Science Team needs / user community expectations



## Approach

- For the first year, 250m production moved from MODAPS
  - to 250m Production System (L2G Land Surface Reflectance, Vegetation Indices)
  - to UMd ESIP (Land Cover Change / Vegetative Cover Conversion)
- Aggregate 250m bands 1 and 2 to 500m in MODAPS for Land Surface Reflectance and derived products
- No change in MODAPS for existing 500m and 1km land products
- Rapid response needed – Adapt MODAPS software (scheduler) to minimize development effort
- Produce and release a limited sample of 250m products as soon as possible and ramp-up to 10% of total land spatial coverage
- Distribute 250m products to the public



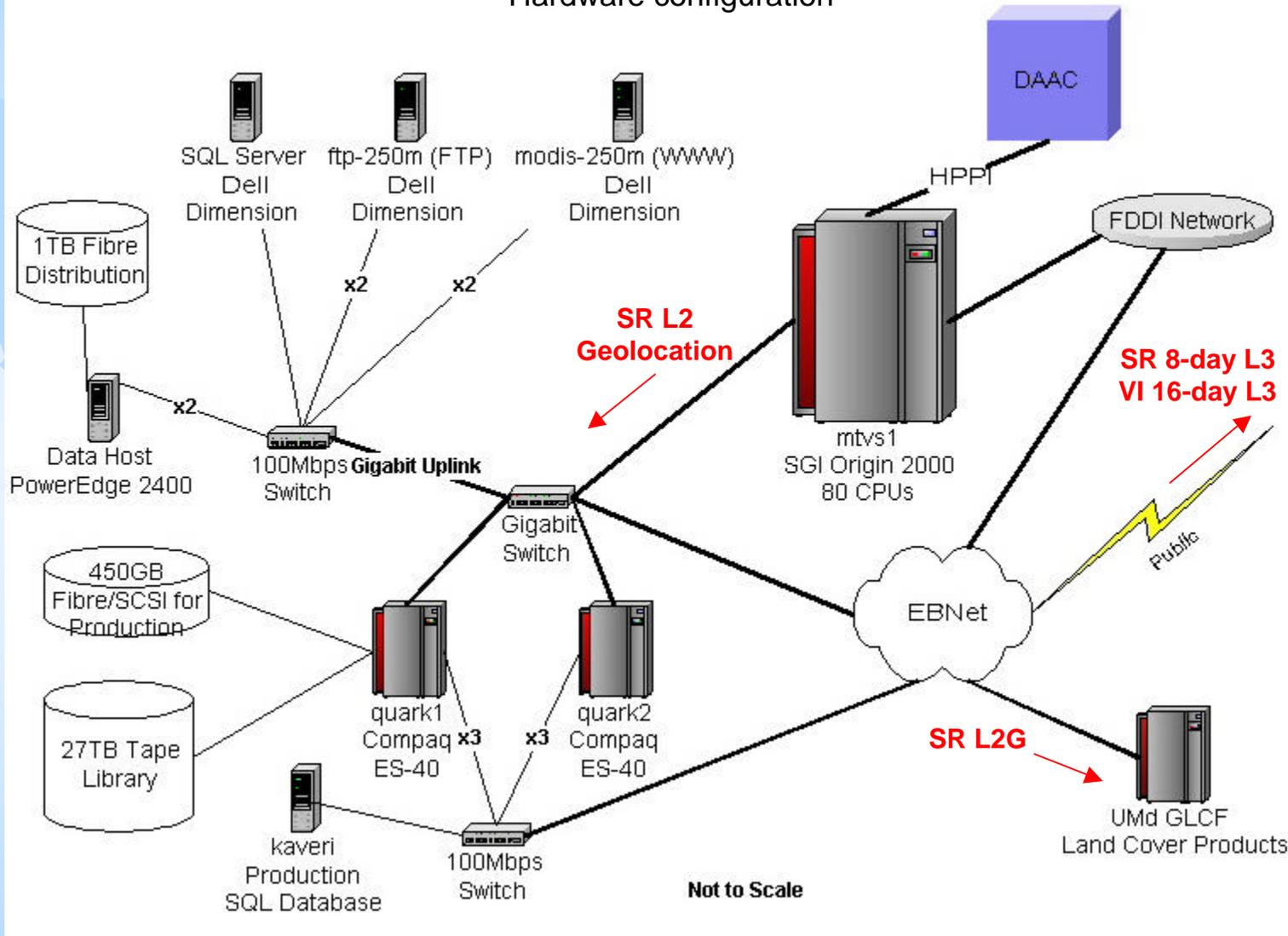
## 250m Production System Outline

- Approximately 10% of total land spatial coverage (38 of 326 tiles) – Conterminous U.S. and validation sites (e.g., LBA, SAFARI)
- Production is flexible (standing + floating tiles)
- Global daily Geolocation and L2 Land Surface Reflectance are pushed by MODAPS
- Daily L2G produced by 250m production system and pushed to UMd GLCF
- L3 8-day Land Surface Reflectance and 16-day Vegetation Indices distributed through a Web-based interface
- Opportunity to develop new or enhanced products, and new browse and ordering tools



# MODIS Land Quarter Kilometer System

## Hardware configuration



## Challenges

- Very tight schedule
- Serious hardware issues with Compaq/Digital ES-40s and incomplete support of the Fibre Channel Disks
- Equipment purchasing turnaround time has been very slow
- Network bandwidth issues slowed product transfers to UMD
- MODAPS software not easy to port and adapt to new hardware configuration
- Short lifetime of L2 products in MODAPS – Downtime not affordable



## Status and Schedule

- 250m Production System **successfully tested** in manual mode early June
- A few day's worth of L2G Land Surface Reflectance successfully produced and pushed to UMD ESIP
- Operations schedule currently driven by awaited hardware delivery
- The system will be up and running by the end of June, with a rapid ramp-up to 10% production



# Web Sites



## Land 250m Project



Rationale

Methodology

Products

Get Data

Links

### Chesapeake Bay early image



Day 2000/066 16:30 UTC.

The **MODIS Land 250m Project** is supported by the NASA Earth Science Information Partners Program as a partial solution to the ECS required constraint of 50% production volume from MODIS PI processing for the first year of Level 2 and 3 data. Currently, 250m production is only supported for 10% of the land surface.

MODIS bands 1,4,3 (displayed as red, green, blue) were used to make this quasi-true color image of the Chesapeake Bay observed on March 6th, 2000. The Land Surface Reflectance product was used to produce this image, corrected for atmospheric effects. The MODIS 250m resolution multispectral observations clearly discriminate different types of vegetation and urban areas in this image.



### More News Items

[First engineering images produced on MODIS 250m system Terra Launches Successfully](#)

### MODIS 250m Products Website

Developed/Maintained by John Owens, University of Maryland ([jowens@modland.org](mailto:jowens@modland.org))  
Authorized by Christopher Justice, MODIS Land Discipline Leader

- 250m Production and Distribution System:  
<http://modis-250m.nascom.nasa.gov>
- ESIP Federation:  
<http://www.esipfed.org>
- UMd GLCF:  
<http://glcf.umiacs.umd.edu>
- MODIS Land Image Gallery:  
<http://modland.nascom.nasa.gov/gallery>



# MODIS Land 250m products – Tentative Production Plan

